## PATENT ABSTRACTS OF JAPAN

(11)Publication number:

05-029228

(43)Date of publication of application: 05.02.1993

(51)Int.CI.

H01L 21/205 // C30B 29/40 C30B 29/48

(21)Application number: 03-236933

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(22)Date of filing:

26.08.1991

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(30)Priority

Priority number: 02231413

Priority date: 31.08.1990

Priority country: JP

03135670

10.05.1991

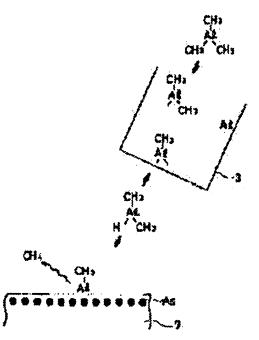
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## (54) ATOMIC LAYER CRYSTAL DEPOSITION METHOD AND DEVICE

## (57)Abstract:

PURPOSE: To improve the adsorption efficiency at low temperature thereby enabling the title atomic layer crystal deposition of a compound semiconductor conventionally unrealizable to be made feasible by a method wherein at least one alkyl radical coupler coupled with a metal before the moleculers to be deposited reach a substrate is thermal-dissociated to be fed to the substrate to be deposited using the alkyl radical moleculers.

CONSTITUTION: (CH3)3Al having the self deposition stopping function passes through a quartz tube 3 to be thermal—dissociated into –(CH3)2Al, –(CH3)A–, Al atoms. At this time, the Al atoms stick to the inner wall of the quartz tube 3 while the couplers of –(CH3)2Al are coupled with hydrogen to be a stable H(CH3)2Al compound. On the other hand, –CH3Al–is also coupled with hydrogen atoms but to be so unstable compound that –CH3Al may be changed into H(CH3)2Al. Accordingly, the hydrogen of the (CH3)2Al reaching the substrate 7 surface is dissociated when Al reacts to As on the substrate surface so that Al and As may be easily coupled with each other into a compound at relatively low temperature. Through these procedures, the title atomic layer crystal deposition of a compound semiconductor conventionally unrealizable can be made feasible.



## **LEGAL STATUS**

[Date of request for examination]

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's decision of rejection]

[Date of requesting appeal against examiner's decision of rejection]

[Date of extinction of right]